23 PSILOCYBIN AND PSILOCYN METHODOLOGY

23.1 Scheduling:

23.1.1 Schedule I – psilocybin and psilocyn, which are found in mushrooms.

23.1.2 The chemicals, rather than the botanical, are controlled.

23.2 Extractions:

23.2.1 Dry sample (in drying oven or microwave). Grind and soak in methanol for a period of 1 – 24 hours. Filter off plant material prior to analysis. This extraction method will allow for the analysis of either psilocyn or psilocybin.

23.2.2 Acetic Acid Extraction Technique (recommended for mushrooms in chocolate or other matrices). This extraction will allow for the analysis of psilocyn.

- Dry approximately 3 grams material. (Easier to grind when dry.)
- Grind up.
- Let soak in 6% acetic acid for 30 minutes - 1 hour.
- Filter off insoluble material.
- Extract acid portion with three aliquots of $CHCl_3$.* (Discard $CHCl_3$.)
- Basify acid portion with concentrated NH_4OH to pH 8 - 10.
- Extract basic solution with three aliquots of $CHCl_3$.*
- Combine aliquots of $CHCl_3$.
- Evaporate $CHCl_3$ with air (low heat).
- Resultant residue will yield psilocyn.

* Do not mix vigorously in the separatory funnel as an emulsion will probably form.

23.3 Color Test Results:

23.3.1 Ehrlich's- purple (positive for psilocyn and psilocybin).

23.3.2 Weber Test- psilocyn - Fast Blue B or Fast Blue BB gives red color; addition of conc. HCl gives blue color.

23.4 TLC:

23.4.1 Baths: TLC1, TLC2, TLC3, TLC4 and TLC5 are recommended.

23.4.2 Detection Sprays:

23.4.2.1 p-DMAB and HCl - reddish violet area for psilocybin, blue for psilocyn.

23.4.2.2 Weber Test (Fast Blue B or Fast Blue BB) can also be used as a TLC spray to detect psilocyn.

23.5 GC:

23.5.1 GC and GC/MS will give only psilocyn due to the dephosphorylation of the psilocybin caused by the GC injection port temperatures.

23.5.2 After methanol extraction and drying, silylation with BSTFA prior to GC or GC/MS will allow differentiation of psilocybin from psilocyn. If psilocybin is to be confirmed, derivatization is required.

23.6 FTIR: KBr pellet on extract from acetic acid extraction yields psilocyn. ♦ End